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IS 14388 (1996): Aircraft - Lower-Deck Turn-Table
Container-Dolley - Functional Requirements [TED 14:
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वायुयान — लोअर-डेक के लिए टर्न-टेबल वाले
कंटेनर-डॉली — प्रकार्यात्मक अपेक्षाएँ

Indian Standard

**AIRCRAFT — LOWER-DECK TURN-
TABLE CONTAINER-DOLLEY —
FUNCTIONAL REQUIREMENTS**

ICS 49.120

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FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Air Cargo Handling Sectional Committee had been approved by the Heavy Mechanical Engineering Division Council.

In the preparation of this standard, assistance have been derived from the following publications:

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|---------|---|
| AHM 910 | 'Basic requirements for aircraft ground support equipment' issued by International Air Transport Association (IATA), Canada. |
| AHM 911 | 'Ground support equipment requirements for compatability with aircraft unit load devices' issued by International Air Transport Association (IATA), Canada. |
| AHM 916 | 'Basic requirements for ground support equipment towing interface' issued by International Air Transport Association (IATA), Canada. |

In reporting the results of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off values should be same as that of the specified value in this standard.

Indian Standard

AIRCRAFT — LOWER-DECK TURN- TABLE CONTAINER-DOLLEY — FUNCTIONAL REQUIREMENTS

1 SCOPE

This Indian Standard lays down the functional requirements for a towed dolly capable of moving lower-deck containers with standard base dimensions of 1 562 mm × 1 534 mm and a maximum weight of 1 588 kg.

2 REFERENCES

Following Indian Standards are necessary adjunct to this standard:

<i>IS No.</i>	<i>Title</i>
7073 (Part 1) : 1973	Glossary of terms relating to air cargo pallets and containers: Part 1 Air cargo pallets
7073 (Part 2) : 1983	Glossary of terms relating to air cargo pallets and containers: Part 2 Air cargo containers

3 DEFINITIONS

3.0 For the purpose of this standard, following terms and definitions in addition to those given in IS 7073 (Part 1) : 1973 and IS 7073 (Part 2) : 1983 shall be applicable.

3.1 Dolley

An equipment capable of moving unit-load-devices (ULD) between baggage/cargo loading facilities at passenger terminal or cargo warehouse and aircraft position and vice-versa.

4 GENERAL REQUIREMENTS

4.1 The container dolley shall be designed for loading four fully loaded dollies at a time in a train.

4.2 The dolley shall have four-wheel running gear, pulled and steered through an integral towbar.

5 DIMENSIONS

5.1 The dollies shall have an overall length of 2 337 mm with an overhang on one side and 2 527 mm with two symmetrical overhangs on both sides.

5.2 The towbar shall have the eye height between 305 mm and 406 mm above the ground.

6 CONSTRUCTION

6.1 The dolley shall consist of a roller platform on an adequate chassis to carry one standard container of size specified in 1.

6.2 The dolley shall have four wheels, two in the front and two at the rear, mounted on independent axles.

6.3 The geometry of the dolley steering system shall be such that when the dollies are towed in train they follow a true track.

6.4 All components of the running gear shall be within the confines of the frame.

6.5 All steering linkages, brake system components or other mechanisms located beneath the dolley shall be adequately protected from damage.

6.6 All tongues, pintles and chassis frames shall be designed to take frequent impact loads.

6.7 The roller platform height shall be 508 mm.

6.8 The length of the dolley shall be adequate to avoid any interference of ULDs on two adjacent dollies.

6.9 The dolley shall have a towbar fitted at the front and a tow hitch at the rear of sufficient strength to allow for four fully loaded dollies to be towed in a train.

6.10 The towbar shall swivel in the vertical plane. Arrangement shall be made to prevent the towbar from touching the ground and from contacting the dolley in extreme positions of the towbar.

6.11 Towbar shall be painted with reflective material or fluorescent paint to make the towbar visible in poor lighting conditions.

6.12 The dolley shall have adequate under-clearance from any portion of the equipment to the ground when negotiating two ramps which intersect at 5°.

6.13 The platform shall provide roller surface allowing fore/aft longitudinal movement of lower deck ULDs.

6.14 The platform design shall permit manual movement of ULDs.

6.15 In order to ease the transfer of ULDs to/from the platform and to absorb the initial impact load, lead-on rollers shall be provided that have the maximum possible diameter commensurate with design.

6.16 Guide rails 50 mm high shall be provided along both sides of the platform.

6.17 Retractable stops with vertical restraints shall be provided at each end of the platform to firmly restrain the ULD base on the platform.

6.18 The height of the top of the restraint device, measured from the top of the roller surface shall not exceed 50 mm.

6.19 The retractable stops shall be operable by one man from both sides of the dolly.

6.20 The force required to actuate any lever or towbar shall not exceed 14 kg.

6.21 The dollies shall be designed to provide a turntable platform which accommodates the ULD base and is able to turn in a horizontal plane through 360° in either direction.

6.22 The platform shall have four locking positions at 90° increments from the normal fore/aft position and shall be possible to end transfer the ULD at each of these positions.

6.23 It shall be possible for one man to rotate the fully loaded platform from either side of the dolly.

7 MOBILITY

7.1 The dolly shall be capable of being towed at speeds up to 15 km/h.

7.2 The minimum swept radius of a train of four dollies shall not exceed 5.2 m.

7.3 The dolly shall have a parking brake.

7.4 The brake shall be applied by placing and locking the towbar in the down position.

7.5 The brake shall be self-equalising and shall be capable of locking each wheel against a tangential force, applied at the periphery of the wheel, in either direction, which is equal to the gross weight of fully loaded trolley divided by the number of braked wheels.

7.6 The brake system shall be able to hold the above weight on a 10 percent gradient.

8 OPTIONS

Following facilities may also be provided if required by the purchaser:

- a) Additional vertical restraint devices for ULDs with base dimensions 1 194 mm × 1534 mm.
- b) Designed to allow movement of lower deck ULDs with base dimensions of 2 438 mm × 1 534 mm and top dimensions of 3 180 mm × 1 534 mm and a maximum weight of 2 450 kg.
- c) Designed to allow side way transfer of ULD ON/OFF dolly.
- d) Designed to allow rotation of ULD through 360° in either direction on the platform.
- e) Designed to allow for a higher towing speed.
- f) Possibility to transfer ULDs from one dolly to the next when coupled in a train.
- g) Provision for independent operation of brake system for example pedal or lever operated type.

9 MARKING

Each dolly shall be marked with the following details on a data-plate fixed on the dolly at a visible location:

- a) Manufacturer's name, initials or recognised trade-mark if any;
- b) Load carrying capacity; and
- c) Size of dolly.

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